

## CLAIMS

1. A metal member to be cast-wrapped by a metal cast article, wherein said metal member to be cast-wrapped has an irregular surface, a projection is projected from said surface, and a maximum width of said projection at a tip end portion is wider than a maximum width of the projection at a base portion.

2. A metal member to be cast-wrapped as claimed in claim 1, wherein at least a part of said tip end portion of said projection is formed in a tapering sharp shape.

3. A metal member to be cast-wrapped as claimed in claim 1 or 2, wherein said metal member to be cast-wrapped is an extruded member having a smooth grooves directed in direction of extruding and irregular projections disposed between said grooves, said irregular projections being formed when said metal member is extruded.

4. A metal member to be cast-wrapped as claimed in claim 3, wherein a side of said irregular projection near an extrusion starting end is wide and high, and a side of said irregular projection near an extrusion completing end is narrow and low.

5. A metal member to be cast-wrapped as claimed in claim 1 or 2, wherein said metal member to be cast-wrapped is a hollow cylindrical body.

6. A cylindrical metal member to be cast-wrapped, wherein said cylindrical metal member has an outer surface formed with projections, said projections are arranged axially in rows and arranged circumferentially at regular intervals through grooves, and tip end portions of said projections are bent laterally.

7. A cylindrical metal member to be cast-wrapped, wherein said cylindrical metal member has an outer surface formed with projections, said projections are arranged axially in rows and arranged circumferentially at regular intervals through grooves, and tip end portions of said projections are bent in axial direction.

8. A cylindrical metal member to be cast-wrapped as claimed in claim 6 or 7, wherein said projections are arranged axially at irregular intervals and are not aligned circumferentially.

9. A method for manufacturing a cylindrical metal member to be cast-wrapped by a metal cast article having an outer surface with projections; comprising:

Preparing a die having an inner peripheral surface formed with longitudinal grooves of depth  $H$  and width  $W$ , relation between a maximum depth  $H_{MAX}$  and a minimum width  $W_{MIN}$  of the groove being set as  $H_{MAX} / W_{MIN} \geq 1.5$ ;

inserting a cylindrical metal material in said die; and  
hot-extruding said cylindrical metal material to obtain the cylindrical metal member to be cast-wrapped having an outer surface with projections.

10. A method for manufacturing a cylindrical metal member to be cast-wrapped as claimed in claim 9, wherein said minimum width  $W_{MIN}$  of said groove is set as  $W_{MIN} \geq 1.3 \text{ mm}$ .

11. A method for manufacturing a cylindrical metal member to be cast-wrapped as claimed in claim 9 or 10, wherein relation between a minimum inner diameter  $d$  and a total inner peripheral length  $L$  of a cross-section of said die is set as  $L / d \cdot \pi \geq 1.5$ .

12. A cylindrical metal member to be cast-wrapped as claimed in claim 6 or 7, wherein said metal member to be

cast-wrapped is a hollow cylindrical body.

13. A method for manufacturing a cylindrical metal member to be cast-wrapped as claim in claim 9 or 10, wherein said metal member to be cast-wrapped is a hollow cylindrical body.